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Effect of Ethanolic Extract of Propolis on Serum Biochemical Factors Level and Total Antioxidant Capacity in Adult Male Rats

Gheybi N.[1] *PhD*, Bakhshi Biniyaz R.[2] *BSc*, Taherkhani R.[2] *BSc*, Jahani Hashemi H.[3] *PhD*, Chegini R.[4] *BSc*, Saremi M.[4] *BSc*, Azhdari Zarmehri H.[5] *PhD*, Najafipour R.[6] *PhD*, Sofiabadi M.* *PhD*

*Physiology Department, Medicine Faculty, Qazvin University of Medical Sciences, Qazvin, Iran
[1]Biomedical Technology Incubator Department, Paramedical School, Qazvin University of Medical Sciences, Qazvin, Iran
[2]Laboratory Sciences Department, Paramedical School, Qazvin University of Medical Sciences, Qazvin, Iran
[3]Biostatics & Social Health Department, Medicine Faculty, Qazvin University of Medical Sciences, Qazvin, Iran
[4]Surgeon Technology Sciences Department, Paramedical School, Qazvin University of Medical Sciences, Qazvin, Iran
[5]Physiology Department, Medicine Faculty, Torbat Haydarieh University of Medical Sciences, Torbat Haydarieh, Iran
[6]Biochemistry & Genetic Department, Medicine Faculty, Qazvin University of Medical Sciences, Qazvin, Iran

Abstract

Aims: Propolis is one of the natural materials collected by the honeybees. The material is extensively used to treat some diseases. The aim of this study was to determine the effects of ethanol extract of propolis of Qazvin plain on some biochemical factors, as well as serum antioxidant capacity, in adult male Wistar rats.

Materials & Methods: In the experimental study, 40 adult male Wistar rats were divided into four groups (n=10 per group). The first was control group. The experimental groups received 50, 100, and 200mg/kg propolis. After 10-day gavage, the serum of the rats being extracted, glucose, triglyceride, aspartate aminotransferase, alanine aminotransferase, and total antioxidant capacity were measured. Data was analyzed by SPSS 20 software using one-way ANOVA and Tykey's post-hoc tests.

Findings: There was no significant difference in the blood sugar level between different groups and control group. There was a significant reduction in triglyceride level in "100mg/kg" group than control group ($p<0.001$). There was a significant increase in aspartate aminotransferase level in "100mg/kg" ($p<0.01$) and "200mg/kg" ($p<0.001$) groups. There was a significant reduction in alanine aminotransferase level in "50mg/kg" group ($p<0.001$). Propolis led to a significant increase in the total antioxidant capacity of serum, especially at 50mg/kg ($p<0.05$) and 100mg/kg ($p<0.01$) doses.

Conclusion: Oral consumption of propolis has a moderating effect on some blood biochemical factors especially triglyceride. In addition, it increases serum total antioxidant capacity. Nevertheless, its excessive consumption might damage patients with liver diseases.

Keywords
Propolis [http://www.ncbi.nlm.nih.gov/mesh/68011429];
Antioxidants [http://www.ncbi.nlm.nih.gov/mesh/68000975];
Alanine Aminotransferase [http://www.ncbi.nlm.nih.gov/mesh/68000410];
Aspartate Aminotransferase [http://www.ncbi.nlm.nih.gov/mesh/68001219];
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*Corresponding Author
Tel: +982833336001
Fax: +982833324970
Address: Physiology Department, Medicine Faculty, Qazvin University of Medical Sciences, Shahid Bahonar Boulevard, Qazvin, Iran. Postal Code: 3419759811
mohasofi@yahoo.com
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